

IN THE CLAIMS:

Claims 1, 12, 21, and 22 are amended herein. All pending claims and their present status are listed below.

- 1 1. (currently amended) A probe apparatus for application monitoring, comprising:
 - 2 (a) a data collection module for collecting data from a network segment;
 - 3 (b) a flow processor coupled to the data collection module for classifying the
4 collected data into a plurality of flows;
 - 5 (c) a capture system coupled to the flow processor for filtering and buffering the
6 collected data based on the collected data and the flow corresponding to the collected
7 data, the capture system comprising a plurality of buffers allocated to the collected data,
8 the capture system reallocating buffers if a number of priority flows changes; and
9 (d) a main processor for processing the filtered data based on the collected data and
10 the flow corresponding to the filtered data.
- 1 2. (Original) The probe apparatus as recited in claim 1, wherein the data collection
2 module prepends the data with descriptor information, wherein the descriptor information
3 is used by the capture system to filter the collected data.
- 1 3. (Original) The probe apparatus as recited in claim 1, wherein the capture system
2 includes a capture buffer and a focus buffer, wherein the capture system filters the
3 collected data stored in the capture buffer, wherein the filtered data is sent to the focus
4 buffer.
- 1 4. (Original) The probe apparatus as recited in claim 3, wherein the capture system
2 captures the collected data in the capture buffer in at least one of a fill and stop mode, a
3 wrap mode, a priority queuing mode, and a non-priority queuing mode.

- 1 5. (Original) The probe apparatus as recited in claim 4, wherein in priority queuing
2 mode the capture buffer is segmented into priority and non-priority queues, wherein the
3 buffer space for each queue varies dynamically based on the arrival of data that meets
4 priority criteria.
- 1 6. (Original) The probe apparatus as recited in claim 5, wherein buffers are
2 reallocated to the priority queue from the non-priority queue as the number of priority
3 flows increases.
- 1 7. (Original) The probe apparatus as recited in claim 5, wherein buffers are
2 reallocated to the non-priority queue from the priority queue as the number of priority
3 flows decreases.
- 1 8. (Original) The probe apparatus as recited in claim 5, wherein the capture system
2 selectively discards flows from the priority queue based on predetermined criteria.
- 1 9. (Original) The probe apparatus as recited in claim 1, wherein the main processor
2 identifies a flow as being important, wherein the flow processor uses the identification as
3 criteria for forwarding additional data from the identified flow to the main processor.
- 1 10. (Original) The probe apparatus as recited in claim 1, wherein at least a portion of
2 the probe apparatus is implemented on a Field Programmable Gate Array (FPGA).
- 1 11. (Original) The probe apparatus as recited in claim 10, wherein the portion of the
2 probe apparatus implemented on the FPGA includes dedicated FPGA engines for capture
3 and filtering of the data.
- 1 12. (Currently amended) A method for application monitoring, comprising:

- 2 (a) collecting data from a network segment;
- 3 (b) classifying the collected data into a plurality of flows;
- 4 (c) filtering and buffering the collected data based on the collected data and the flow
- 5 corresponding to the collected data, the buffering being allocated to the collected data;
- 6 and
- 7 (d) reallocating buffering if a number of priority flows changes and
- 8 (e)(d) processing the filtered data based on the collected data and the flow
- 9 corresponding to the collected data.

1 13. (Original) The method as recited in claim 12, further comprising prepending the data
2 with descriptor information, wherein the descriptor information is used to filter the collected
3 data.

1 14. (Original) The method as recited in claim 12, further comprising storing the collected
2 data in a capture buffer, filtering the collected data stored in the capture buffer, and sending
3 the filtered data to a focus buffer.

1 15. (Original) The method as recited in claim 14, further comprising capturing the
2 collected data in the capture buffer in at least one of a fill and stop mode, a wrap mode, a
3 priority queuing mode, and a non-priority queuing mode.

1 16. (Original) The method as recited in claim 15, further comprising segmenting the
2 capture buffer into priority and non-priority queues in priority queuing mode, wherein the
3 buffer space for each queue varies dynamically based on the arrival of data that meets
4 priority criteria.

1 17. (Original) The method as recited in claim 16, further comprising reallocating buffers
2 to the priority queue from the non-priority queue as the number of priority flows increases.

1 18. (Original) The method as recited in claim 16, further comprising reallocating buffers
2 to the non-priority queue from the priority queue as the number of priority flows decreases.

1 19. (Original) The method as recited in claim 16, wherein the capture system selectively
2 discards flows from the priority queue based on predetermined criteria.

1 20. (Original) The method as recited in claim 12, further comprising identifying a flow
2 of data as being important, and using the identification as criteria for forwarding additional
3 data from the identified flow for processing.

1 21. (currently amended) A computer program product for application monitoring,
2 comprising:

3 (a) computer code for collecting data from a network segment;

4 (b) computer code for classifying the collected data into a plurality of flows;

5 (c) computer code for filtering and buffering the collected data based on the collected
6 data and the flow corresponding to the collected data, the buffering being allocated to the
7 collected data; and

8 (d) computer code for reallocating buffering if a number of priority flows changes and

9 (e)(d) computer code for processing the filtered data based on the collected data and the
10 flow corresponding to the collected data.

1 22. (Currently amended) A probe apparatus for application monitoring, comprising:

2 (a) a data collection module for collecting data from a network segment;

3 (b) a flow processor coupled to the data collection module for classifying the collected
4 data into a plurality of flows;

5 (c) a capture system coupled to the flow processor for filtering and buffering the
6 collected data based on the collected data and the flow corresponding to the collected data,
7 wherein the capture system includes a capture buffer and a focus buffer, wherein in priority
8 queuing mode the capture buffer is segmented into priority and non-priority queues, wherein

9 the buffer space for each queue varies dynamically based on the arrival of data that meets
10 priority criteria, wherein the buffer space is reallocated if a number of priority flows changes;
11 and
12 (d) a main processor for processing the filtered data based on the collected data and the
13 flow corresponding to the collected data.

23. (previously presented) A probe apparatus for application monitoring, comprising:
- (a) a data collection module for collecting data from a network segment;
 - (b) a flow processor coupled to the data collection module for classifying the collected data into a plurality of flows;
 - (c) a capture system coupled to the flow processor for filtering and buffering the collected data based on the collected data and the flow corresponding to the collected data; and
 - (d) a main processor for processing the filtered data based on the collected data and the flow corresponding to the collected data;
 - (e) wherein the data collection module prepends the data with descriptor information, wherein the descriptor information is used by the capture system to filter the collected data;
 - (f) wherein the capture system includes a capture buffer and a focus buffer, wherein the capture system filters the collected data stored in the capture buffer, wherein the filtered data is sent to the focus buffer;
 - (g) wherein the capture system captures the collected data in the capture buffer in at least one of a fill and stop mode, a wrap mode, a priority queuing mode, and a non-priority queuing mode;
 - (h) wherein in priority queuing mode the capture buffer is segmented into priority and non-priority queues, wherein the buffer space for each queue varies dynamically based on the arrival of data that meets priority criteria;
 - (i) wherein buffers are reallocated to the priority queue from the non-priority queue as the number of priority flows increases;
 - (j) wherein buffers are reallocated to the non-priority queue from the priority queue as the number of priority flows decreases;
 - (k) wherein the capture system selectively discards flows from the priority queue based on predetermined criteria including at least one of an amount of priority data exceeding a processing capability of the system, user specifications, and the flow matching a randomly selected identifier;

- (l) wherein the main processor identifies a flow as being important, wherein the flow processor uses the identification as criteria for forwarding additional data from the identified flow to the main processor;
- (m) wherein at least a portion of the probe apparatus is implemented on a Field Programmable Gate Array (FPGA);
- (n) wherein the portion of the probe apparatus implemented on the FPGA includes dedicated FPGA engines for capture and filtering of the data.